

Durham Research Online

Deposited in DRO:

14 December 2015

Version of attached file:

Accepted Version

Peer-review status of attached file:

Peer-reviewed

Citation for published item:

Williams, C. and Colovic, A. and Zhu, J. (2016) 'Foreign market knowledge, country sales breadth and innovative performance of emerging economy firms.', *International journal of innovation management.*, 20 (6). p. 1650059.

Further information on publisher's website:

<http://dx.doi.org/10.1142/S1363919616500596>

Publisher's copyright statement:

Electronic version of an article published as *International Journal of Innovation Management*, 20, 6, 2016, 1650059, 10.1142/S1363919616500596 © World Scientific Publishing Company <http://www.worldscientific.com/worldscinet/ijim>

Additional information:

Use policy

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a [link](#) is made to the metadata record in DRO
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the [full DRO policy](#) for further details.

FOREIGN MARKET KNOWLEDGE, COUNTRY SALES BREADTH AND INNOVATIVE PERFORMANCE OF EMERGING ECONOMY FIRMS

ABSTRACT

We examine the impact of foreign market knowledge on innovative performance in emerging economy firms. We also study how this relationship is moderated by country sales breadth, i.e., the diversity of countries in which the firm derives sales. We test two competing theoretical perspectives on this relationship: diversity logic suggesting country sales breadth is beneficial to innovative performance, and time compression diseconomies logic suggesting the opposite. Drawing from a sample of 92 Chinese firms, we show that foreign market knowledge has a positive impact on innovative performance, and that this relationship is positively moderated by country sales breadth. Our study suggests that managers in Chinese firms develop effective capabilities in accessing, integrating and utilizing foreign market knowledge from a breadth of international sources in their quest for innovation.

Key words: Innovative performance, foreign market knowledge, internationalization, China

INTRODUCTION

Accumulation of new market knowledge is one of the main benefits for firms operating in international markets (Cantwell and Piscitello, 2000; Kuemmerle, 1999). While early studies saw foreign expansion as a gradual process of knowledge accumulation (Johanson and Vahlne, 1977), scholars more recently have shown how firms can rapidly internationalize through networks (Chetty and Blankenburg Holm, 2000; Johanson and Vahlne, 2009; Oviatt and McDougall, 2005) and expand into multiple countries in a short space of time (Knight and Cavusgil, 2004; Oviatt and McDougall, 1994). Rapid international expansion, however, can be detrimental to a firm's performance if it is not able to effectively coordinate its experiences (Barkema, *et al.*, 1996; Gaur and Lu, 2007; Makino and Delios, 1996). Indeed, the firm may draw erroneous inferences and learn incorrectly from early expansions when new to dissimilar circumstances (Makino and Delios, 1996; Zeng *et al.*, 2013).

This potential hazard of internationalizing is particularly relevant to firms from emerging economies that seek not only sales growth in new markets but also foreign market knowledge that will help them in their drive to be more innovative. These so-called late-comer firms are under pressure to develop innovative capabilities as their economy seeks to 'catch-up' and compete with firms from developed economies (Guan *et al.*, 2006; Kumaraswamy *et al.*, 2012; Luo and Tung, 2007; Sim and Pandian, 2003; Yip and McKern, 2014). Emerging economy firms face a number of conditions that challenge their ability to catch-up (Wu and Zhang, 2010). Firstly, they are more likely to start from a position of technological backwardness than developed economy firms. Secondly, emerging economy firms face a range of uncertainties in their home countries (Lamotte and Colovic, 2015). Indeed, these

countries are characterized by institutional transition (Gao *et al.*, 2010; Peng, 2003; Peng *et al.*, 2008) and institutional voids in which non-transparent judicial systems, poor enforcement of the rule of law, bureaucratic red tape, corruption in public service and government sectors, inefficient market intermediaries, weak capital market structures, and ambiguous laws and regulations may be present (Gao *et al.*, 2010; Li, 2013; Luo and Tung, 2007; Ricart *et al.*, 2004). Thirdly, in many emerging countries, the technological infrastructure lags behind that of developed countries (Kiss *et al.*, 2012). Fourthly, because in the past in numerous emerging countries an extremely limited number of firms were authorized to establish international operations (mainly through exporting and importing) under centrally-planned systems, whole towns and regions had virtually no international experience (Ciezlik and Kaciak, 2009).

Increasingly, firms from emerging economies pursue outward foreign direct investment (FDI) in order to achieve both sales growth and strategic learning. They are often encouraged by their national governments to venture abroad (Yip and McKern, 2014). Moreover, the openness of many developed markets has also been a strong driver for emerging economy firms' internationalization (Deng, 2009; Contractor, 2013). While inward FDI from developed to emerging economies is an important source of knowledge acquisition for emerging economy firms (von Zedtwitz, 2004), outward FDI remains a critical way to learn about foreign markets (Buckley *et al.*, 2007; Li *et al.*, 2010). Emerging economy firms may suffer from narrower and shallower knowledge bases than firms from advanced economies (Awate *et al.*, 2012) and may lack levels of resources and capabilities that firms from developed economies will possess (Zhou et Wu, 2014). Moreover, inward FDI focuses on catering to

emerging economies consumer needs, while outward FDI aims at reaching world markets and foreign consumers. Foreign market knowledge, which we define in this research as knowledge gained by top managers about foreign competitors, foreign customers' needs, foreign distribution channels and marketing strategies in foreign markets, is important for emerging economy firms that seek to develop innovative capabilities (Li *et al.*, 2010; Yip and McKern, 2014). Nevertheless, when such firms are new to internationalization - lacking experience in operating in foreign markets - the link between foreign market knowledge and innovative performance is not always clear cut. Therefore, scholars have called for more research on the links between internationalization, and consequently, foreign market knowledge acquisition, and innovative performance of emerging economy firms (Li *et al.*, 2010; Luo and Tung, 2007; Zhang and Li, 2010).

In our conceptualization of innovative performance, we recognize multiple dimensions of this construct, in line with Ahuja and Katila (2001), Caridi-Zahavi *et al.* (2015), Hagedoorn and Cloudt (2003) and Yli-Renko *et al.* (2001). Much of the prior literature focusing on innovative performance has focused on a single aspect of performance, for example, rate of new product introduction (Smith *et al.*, 2005) or growth in sales (Collins and Smith, 2006). In this research we refer to innovative performance as the combination of the following dimensions: the speed and rate of new product development, the success rate of product innovation and the success of new products in terms of generated sales.

We develop and test a model that predicts how innovative performance in an emerging economy firm is directly influenced by the foreign market knowledge it gains through its initial international expansion. We draw on the knowledge-based view of the multinational

enterprise (MNE) (Grant, 1996; Kogut and Zander, 1993; Zander, 2002) and organizational learning theory (Fiol and Lyles, 1985; Huber, 1991; March, 1991) to develop our hypotheses. Our model also accounts for a hitherto under-researched indirect moderating effect of country sales breadth, defined as the proclivity of the firm to seek expansion into a variety of new countries in a given period of time. Country sales breadth is also referred to in the literature as the geographical scope and it is one of the three essential dimensions of internationalization along with speed and extent (ratio of foreign sales to total sales) (Zahra and George, 2002a). Although it has been widely investigated in the academic literature, studies have not examined its impact on the relationship between foreign market knowledge and innovative performance in emerging economy firms.

In this research, we hypothesize that while foreign market knowledge has a positive influence on innovative performance, this relationship will be moderated by the scope of countries in which the firm derives this knowledge. We present two competing theoretical perspectives on this issue, based, firstly, on the logic of diversity and, secondly, on the logic of time compression diseconomies. Thus we recognize the potential for both benefits and costs in early expansion of firms from an emerging economy. While the former emphasizes the role that diverse experiences play in novelty and creativity that underpin innovation (Del'Era and Verganti, 2010; Wanous and Youtz, 1986; Zahra *et al.*, 2000), the latter argues that firms face constraints because of their limited capacity to handle and absorb the complexities that accompany international expansion (Jiang *et al.*, 2014; Vermeulen and Barkema, 2002; Williams and Lee, 2009), accompanied by high coordination costs during initial expansion (Lu and Beamish, 2004).

Our fieldwork is based on a questionnaire survey of senior managers in 92 Chinese small to medium sized enterprises that have embarked on international expansion. China is an ideal setting to conduct this study. While commentators have noted that the competitive capability of China's firms is relatively weak (Awate *et al.*, 2012), in particular for smaller firms, China has gone through incredible economic growth in the last several decades (Choi and Williams, 2014; Li *et al.*, 2010), accompanied by high inward R&D investment by developed market firms (von Zedtwitz, 2004). Consequently, its firms have become more innovative (Perks *et al.*, 2010; Wang *et al.*, 2010; Xie and von Zedtwitz, 2010; Yip and McKern, 2014). Moreover, with the erosion in the cost advantage of Chinese manufacturing, more and more Chinese firms are aware of the need to develop innovation capabilities to be more competitive both in their domestic market and abroad (Gu and Tse, 2010; Hu and Jefferson, 2004; Yip and McKern, 2014). In addition, the Chinese government is providing incentives and support for innovation to firms in order to catch up with the developed world (Yip and McKern, 2014) and it has formulated a *going global* policy to encourage international expansion of Chinese firms in technology sectors (Buckley *et al.*, 2007; Zhang *et al.*, 2009).

The findings of our study show that foreign market knowledge has a significant and positive impact on innovative performance, and that this relationship is *positively* moderated by country sales breadth. We contribute to the literature on internationalization and innovative performance in emerging economy firms by showing how knowledge gained through initial expansion in overseas markets is useful for innovative capability development and how a greater proclivity for expanding into new countries will boost, rather than constrain, innovation for emerging economy firms.

THEORY AND MODEL DEVELOPMENT

In their seminal work on the internationalization process, Johanson and Vahlne (1977) argued that international expansion is a process of gradual knowledge accumulation. Operations in international markets allow firms to accumulate international knowledge and experience that can be used to respond to opportunities and deal with foreign market uncertainties (Andersen, 1993). This stream of internationalization research draws on organizational learning theory (Argyris, 1977; Argyris and Schön, 1978) to provide a foundation for explaining the international growth of firms. Experience and foreign market knowledge are seen as key success factors for multinational enterprises (MNEs) undertaking foreign direct investment, with benefits both for performance of foreign subsidiaries as well as the overall corporation (Barkema *et al.*, 1996; Barkema and Drogendijk, 2007; Barkema *et al.*, 1997).

The knowledge-based view of the MNE regards knowledge as a source of sustainable competitive advantage; knowledge acquired from foreign markets can be utilized to create and augment the competitive capabilities of the firm (Gupta and Govindarajan, 2000; Kogut and Zander, 1993; Kuemmerle, 2002). While it has long been recognized that knowledge acquisition opens new ‘productive opportunities’ (Penrose, 1995) and enhances the firm’s ability to exploit these opportunities, it is less understood how this mechanism works for emerging economy firms (Horng and Chen, 2008; Jefferson *et al.*, 2006; Li *et al.*, 2010). Research suggests that the development and growth of emerging economy firms is dependent upon combining their own firm specific knowledge with that of external sources to augment home knowledge base or acquire competences through international expansion (Kuemmerle, 1999; Mathews and Cho, 1999; Meyer and Thaijongrak, 2013). However, emerging economy

firms differ from firms in developed economies, which generally leverage and exploit ownership-specific advantages in foreign countries (Dunning, 1998; Lecraw, 1983; Cardoza and Fornes, 2011). The international expansion of firms from emerging economies is often triggered by “pull” factors such as the desire to acquire advanced technology, obtain managerial expertise to overcome their latecomer handicap (Luo and Tung, 2007).

Baseline hypothesis: foreign market knowledge and innovative performance

Despite the fact that various approaches have been proposed to identify the drivers of innovation, there is no over-riding theory of innovation (Choi and Williams, 2014). Organizational learning theorists (Barkema and Vermeulen, 1998; Lyles and Salk, 1996; Zahra and Garvis, 2000; Zahra *et al.*, 2000) suggest that international expansion can enhance learning and significantly improve a firm’s ability to innovate, take risks and develop new revenue streams. Innovations arise as a consequence of new combinations of knowledge and other resources accumulated over time (Cohen and Levinthal, 1990; Kogut and Zander, 1992, 1993; Schumpeter and Opie, 1955). As emphasized in internationalization process theory (Yli-Renko *et al.*, 2002), foreign market knowledge is the acquisition of information and experiential knowledge concerning foreign markets, competitors, customers, and potential cooperation partners. Scholars have noted that the acquisition of foreign market knowledge gained through international expansion can facilitate innovation within the firm (Barkema and Vermeulen, 1998; Cantwell and Piscitello, 2000; Kuemmerle, 1999; Zahra *et al.*, 2000; Zanfei, 2000). Presutti *et al.* (2007) found that foreign market knowledge can be gained as a consequence of the structural dimension of social capital (weak ties) with customers in

foreign markets. This is beneficial to global high-tech start-ups wishing to innovate. Foreign market knowledge can also enhance the range of new ideas concerning how the firm should deploy its innovative capabilities as well as increase the willingness of firms to undertake new R&D activity in response to market stimuli (Cantwell and Mudambi, 2005; Kuemmerle, 1999; Tsao and Chen, 2012; Zanfei, 2000).

In line with the arguments above, we propose that the greater the foreign market knowledge which emerging economy firms gain through international expansion, the more likely they are able to develop and deploy their innovative capability. Therefore, we hypothesize:

H1: Foreign market knowledge has a positive impact on innovative performance of firms from an emerging economy.

Competing views on the moderating effect of country sales breadth

One of the key issues confronting firms in an emerging economy that seek to enhance their innovative performance through foreign market knowledge is how many countries to attempt to generate sales from while accessing and capturing foreign market knowledge. Country sales breadth relates to diversity in the countries in which the firm derives its sales. At one extreme, newly internationalizing firms may generate sales within one or two foreign markets. At another extreme, they may disperse their business operations across a large variety of foreign markets. These alternatives yield different learning outcomes (Hashai, 2011; Vermeulen and Barkema, 2002). On the one hand, an emphasis on a large number of countries generates diversity in experiences which may be beneficial for innovation.

Diversity is recognized as a source of creativity and innovation that can provide a basis for competitive advantage (Barkema and Vermeulen, 1998). On the other hand, firms may encounter diseconomies of time compression (Vermeulen and Barkema, 2002), drawing erroneous inferences because they are not able to effectively coordinate an abundance of new knowledge from foreign markets. This is particularly true for small-sized firms that lack time, human and other resources to deal with great quantities of foreign information and knowledge (Lu and Beamish, 2001). They will learn incorrectly from their early expansions when facing dissimilar circumstances; knowledge may be discerned as irrelevant and inappropriate (Zeng *et al.*, 2013).

These potential advantages and disadvantages associated with country sales breadth put the internationalizing emerging economy firms in a paradoxical situation (Bassett - Jones, 2005). At both extremes of country sales breadth, the firm is able to access foreign market knowledge (*Hypothesis 1* above). But to what extent does the country sales breadth moderate the relationship between foreign market knowledge and innovative performance? We present two competing perspectives on this based on the logic of diversity and on the logic of time compression diseconomies and knowledge coordination.

Firstly, in order to innovate, a firm must first search, identify and evaluate knowledge from different sources. International expansion is a prime way of opening up these sources, exposing the firm to new environments that have different systems of organization, inducing firms to understand best practices in foreign markets (Dess *et al.*, 2003). The diversity of foreign cultures, consumer groups, and national business systems associated with international expansion broaden the firm's search for new knowledge (March, 1991).

Operating in diverse circumstances increases the variety of events and ideas to which a firm is exposed (Huber, 1991), leading to a more extensive knowledge base (Barkema and Vermeulen, 1998).

Previous empirical investigations have generally provided support for the argument that diversity in an organization's knowledge base is a source of innovation that can provide a basis for competitive advantage (Bassett - Jones, 2005; Del'Era and Verganti, 2010; Wanous and Youtz, 1986). Zahra *et al.* (2000) suggested that knowledge diversity increases the depth, breadth, and speed of learning, leading to a greater number of product introductions. Fiol (1994) argued that diversity is important for collective learning and corporate innovation, as long as there is a shared way of framing differences within corporate communications. CEOs of internationally diversified firms have richer knowledge structures than CEOs of domestic firms (Calori *et al.*, 1994). The greater diversity in the knowledge of managers and other workers aggregates to richer knowledge structures at the level of the firm (Walsh, 1995).

We extend this to argue that the variety of events (Huber, 1991), the greater depth and breadth of knowledge (Zahra *et al.*, 2000), and the richer knowledge structures (Walsh, 1995) that will arise as a result of higher levels of country sales breadth will amplify the relationship between foreign market knowledge and innovative performance. With greater country sales breadth the foreign market knowledge that the firm acquires will contain a broader range of insights into customers' needs and attributes of products that are needed in order for the firm to be competitive. This broader range of insights will stimulate creativity in the firm, intensify the need for internal communications and knowledge sharing and this will be

beneficial to innovative activities surrounding the developing of new product offerings. This line of reasoning suggests:

H2a: Country sales breadth positively moderates the relationship between foreign market knowledge and innovative performance of firms from an emerging economy.

An alternative view is that seeking country sales breadth by venturing into many different countries is a more complicated process than concentrating on a limited number of geographic markets, and one that will incur internal costs. The notion that prior experience may benefit subsequent activities by generating valuable knowledge is based on the premise that firms can effectively untangle causalities in prior activities and draw accurate inferences (Levinthal and March, 1993). Organizational learning theorists have acknowledged that this premise is often violated by factors such as ambiguity and paucity of experience, as well as by the rational and cognitive limitations of individuals (Fiol and Lyles, 1985; Huber, 1991; Levinthal and March, 1993; Levitt and March, 1988; Zeng *et al.*, 2013).

Furthermore, the literature on the positive role of diversity in innovation tends to ignore the cost associated with the acquisition, assimilation, and transformation of new knowledge (Wales *et al.*, 2013). More internationalized firms encounter higher volumes of foreign market knowledge and suffer more from the resource-consuming cost implications of coordinating knowledge (Eriksson *et al.*, 1997; Lu and Beamish, 2004) than less internationalized firms. Escalating geographic dispersion can greatly increase managerial information-processing demands (Hitt *et al.*, 1994; Jones and Hill, 1988) as well as coordination, distribution, and

management costs. Firms have to learn how to operate in a variety of institutional and cultural settings and consequently adapt their systems, processes, and organizational structures to these settings. This suggests an increase in country sales breadth will lead to diminishing returns in firms' innovative performance.

Drawing from the notion of absorptive capacity, Vermeulen and Barkema (2002) argue that the larger the geographic scope of an expansion process, the more time the firm needs to fully absorb the accompanying experiences. Firms expanding into many geographical markets suffer more from time compression diseconomies than firms that just disperse into several markets (Vermeulen and Barkema, 2002). The more countries involved in an expansion strategy in a given period of time, the more difficult it is to absorb the experience and use it for commercial gain. Hence:

H2b: Country sales breadth negatively moderates the relationship between foreign market knowledge and innovative performance of firms from an emerging economy.

METHODOLOGY

Sample and data collection

We tested these hypotheses using a questionnaire survey of senior managers of SMEs who were in charge of international operations for their respective firms. We targeted these managers because, considering the age and size of the companies, these managers were well placed to comment on internal dynamics and innovative performance of their organizations.

We used China as our empirical context. This was an ideal setting for various reasons. The

Chinese government has instigated ‘*go global*’ (‘*zou chu qu*’) initiative aiming to encourage its firms to internationalize in order to promote their international competitiveness (Buckley *et al.*, 2007). Due to difficulties in collecting primary data from firms in China (Brouthers and Xu, 2002; Peng and Luo, 2000), we identified respondents through both formal and informal networks. Formal networks are those networks with easy-to-identify members and governance bodies, such as registered exporters’ associations. Informal networks are made up of individuals or groups linked by personal relationships. We gained access to informal networks through professional acquaintances in China. We conducted a pre-test and pilot study prior to the full data collection, and adopted a convenience sampling approach in each stage. For the pre-test and pilot, we conducted interviews within our informal network: with 20 managers of internationalizing Chinese firms based in Shanghai. We presented a draft version of the questionnaire to these managers. Based on the feedback we received, we refined the measures to ensure their relevance for the Chinese context.

The larger part of the sample was collected through a formal network with the help of Suzhou Chamber of Commerce. The questionnaires were also distributed at the China Small and Medium-sized enterprises (SMEs) forum supported by Chinese Ministry of Commerce. This forum provided a platform for communication and interaction between government officials, business leaders and entrepreneurs in SMEs as well as promoting cooperation and development during the internationalization process of SMEs.

The questionnaire was developed initially in English, using standard scales. We translated the questionnaire items from English to Chinese prior to data collection. Of 387 questionnaires issued, we received 168 completed questionnaires. We removed those firms

from the analysis that had not undertaken foreign direct investment (i.e., they merely engaged in exporting) and those firms with very low degrees of internationalization (the ratio of foreign sales to total sales less than 5%; prior researchers have argued the internationalization level of these firms can be considered too low (Zahra *et al.*, 2000)). After eliminating observations with missing values, the sample size was 92 firms (an effective response rate of 23.8%). The characteristics of the sample are shown in Table 1. The sample was mixed in terms of industry (traditional manufacturing, information technology and services) and contained relatively young companies, with an average age of 8.54 years.

INSERT TABLE 1 HERE

Measurements

For all scales, Cronbach's α was above the minimum recommended level (Nunnally, 1978). We assessed the structure of each scale using a principal component factor analysis. Items loaded on their respective scales correctly and there were no high cross-loadings which would make item to construct associations ambiguous.

Innovative performance: We followed prior research (Ahuja and Katila, 2001; Hagedoorn and Cloudt, 2003; Yli-Renko *et al.*, 2001) by operationalizing innovative performance as the speed of new product development, number of annual new products, success rate of product innovation, and sales of new products to total sales. Cronbach's α for this scale was 0.87. We also ran tests with the dependent variable including an item for satisfaction with annual patents, i.e., capturing perception of innovation performance prior to commercialization.

Foreign market knowledge: Foreign market knowledge was operationalized using a four-item scale capturing the top managers' knowledge about its foreign competitors, the

needs of foreign clients/customers, foreign distribution channels, and effective marketing in foreign markets. This scale is adapted from an established scale in prior literature (Yli-Renko *et al.*, 2002; Zhou, 2007). Cronbach's α for this scale was 0.86.

Country sales breadth: The indicator for this was a single item capturing the number of countries in which the firm derives sales (Fernhaber *et al.*, 2008; Zahra *et al.*, 2000; Zhou and Wu, 2014).

We conducted a confirmatory factor analysis (CFA) to assess construct validity. The measurement model provides a satisfactory fit to the data (Goodness-of-fit index [CFI]=0.97, Incremental fit index [IFI]=0.97, root mean square error of approximation [RMSEA]=0.06). Moreover, all factor loadings are highly significant ($p < 0.001$), and the composite reliabilities (CR) of all multi-item construct exceed the 0.70 benchmark (Fornell and Larcker, 1981). All average variances extracted (AVE) are greater than 0.50. Thus the measures demonstrate adequate convergent validity and reliability (Fornell and Larcker, 1981). We also calculated the maximum shared variance (MSV) between all possible pairs of constructs to determine whether they are lower than the AVE of the individual constructs. For each construct, the AVE is higher than MSV with the other constructs. The results indicate that our measures possess adequate reliability and validity (Table 2).

INSERT TABLE 2 HERE

Factor analysis also allows us to test for common method bias. A model with a single factor linking all items from the dependent and independent variables was assessed. This model did not fit the data. Moreover, we conducted a rotated component analysis on these items; the variance was less than 50% of the total variance. We do not believe common

method bias is likely to impact our interpretation of the results.

We also included controls for several variables that might affect the hypothesized relationships. We included firm age as a control variable, as this may have an influence on knowledge exploitation through experience effects (Autio *et al.*, 2000; Zahra *et al.*, 2000). Firm age was measured by the number of years the company had been in existence. We controlled for firm size, common in analysis of innovative performance (Cohen and Levinthal, 1989), measured by the natural logarithm of a firm full time employees. As industries vary in knowledge acquisition (Yli-Renko *et al.*, 2001), we controlled for industry (self-reported as the primary industry from which the company generated most of its sales). Following Autio *et al.* (2000), we also controlled for the firm's speed of internationalization. This was captured as the time in years between a firm's founding and its first international sales. We also controlled for location because location can influence innovative performance through local knowledge acquisition (Christensen and Drejer, 2005). The locations were Shanghai, Jiangsu, Zhejiang, Guangdong, Beijing, Shangdong, Anhui, Liaoning and Tianjin.

RESULTS

Table 3 presents the means, standard deviations, and inter-correlations for all variables used in the study. All variables are normally distributed. As anticipated the correlation between firm age and size is positive and significant ($r=0.59$, $p<0.01$). Also, as one would expect, the older and larger firms in the sample had sales in more countries ($r=0.44$, $p<0.01$; $r=0.28$, $p<0.01$). We note that there is a positive and significant bi-variate correlation between innovative performance and foreign market knowledge ($r=0.46$, $p<0.01$) and between

innovative performance and country sales breadth ($r=0.18$, $p<0.1$). We examined the variance inflation factor and tolerance values for all independent variables and found that the effect of the correlated independent variables would not hamper the interpretability of the results.

INSERT TABLE 3 HERE

The results of the multiple regression analysis are shown in Tables 4 and 5. Five models are used to examine the effects of control variables, direct effects, and moderating effects. In each analysis, with the full model, we note the highest variance explained by the full model with moderating effect. In all models, foreign market knowledge is positive and significant, providing strong support for H1 ($p<0.001$). We also note a positive and significant moderating effect of country sales breadth on the relationship between foreign market knowledge and innovative performance in the moderating effects models. This provides support for H2a and not for H2b. The interaction plot showing support for H2a is presented in Figure 1. Table 5 shows the profile of coefficients for the model using a 4-item scale for the dependent variable, i.e., after removing the item satisfaction with annual patents. Information about patenting may reflect inputs to innovation as opposed to the four other items reflecting information about output from innovation in terms of commercial performance. We note that the profile of coefficients remains the same.

INSERT TABLES 4 and 5 HERE

INSERT FIGURES 1 HERE

DISCUSSION

The relationship between foreign market knowledge and innovative performance of emerging economy firms and how this relationship is moderated by the country sales breadth are important yet unexplored questions in the extant literature (Li *et al.*, 2010). Our study contributes to fill this research gap by examining this issue on a sample of small to medium-sized and relatively young Chinese firms. We contribute to the literature by showing how knowledge gained through initial sales expansion in overseas markets is useful for innovative capability in emerging economy firms. This reinforces the conventional IB theory (Grant, 1996; Kogut and Zander, 1993; Zander, 2002) on the learning benefits of internationalization, not only for sales and financial performance, but also for capabilities in the firm that are aimed at innovation and new product development.

Our results suggest that the notion that foreign market knowledge is beneficial for innovative performance is not unique to larger firms from developed countries. Indeed, our findings show that small and medium-sized firms from emerging economies – despite the constraints put on them as a result of their size as well as historical institutional weaknesses in their context (Gao *et al.*, 2010; Peng *et al.*, 2008) – are also able to use foreign market knowledge to boost their innovative performance. They are able to learn about consumer preferences, cultural specificities, distribution channels and competitors in foreign markets and translate this knowledge into decisions relating to new product developments. In other words, the knowledge base of these firms is significantly broadened (Bassett-Jones, 2005; Del’Era and Verganti, 2010) through exposure to business systems in other countries and this has a significant positive impact on how they perform with regard to innovation. Our findings therefore suggest that emerging economy firms can overcome some of their initial

disadvantages by learning from foreign markets in which they operate and that this is particularly relevant for these young internationalizing firms.

Our study also contributes to the debate on whether theories of diversity or time compression diseconomies and coordination costs are more powerful in explaining innovative performance. At least in the Chinese SME setting, the positive influence of diversity through country sales breadth appears to outweigh any costs associated with time compression and knowledge coordination. This may not have always been the case, but it appears to be the situation in contemporary China. Indeed, our findings suggest that the positive influence of foreign market knowledge on performance is augmented when firms operate in a variety of international settings. This is because firms can draw on multiple knowledge bases to acquire new skills and capabilities (Zahra *et al.*, 2000), which they can deploy to innovate more successfully (Cantwell and Mudambi, 2005). We show that when a firm learns from multiple foreign markets, it can benefit from the variations across countries (Zahra *et al.*, 2000) and can consequently identify winning formulas to compete in foreign markets (Dess *et al.*, 2003) more clearly.

It is interesting to note, however, that if the firm perceives that it is not learning from foreign markets, i.e. when its foreign market knowledge is low, then high country sales breadth worsens its innovative performance (see Figure 1). This suggests that in order to benefit from expansion into a broad range of markets, the emerging economy firm has to develop learning capabilities that enable it to integrate foreign market knowledge into its core knowledge base (Levinthal and March, 1993). Vermeulen and Barkema (2002) argue that the greater the geographic scope of international expansion, the more time the firm needs to fully

absorb the accompanying experiences. Similarly, Zhou et al. (2010) argue that the ability to update the existing knowledge base following foreign market knowledge acquisition is a necessary condition for successful internationalization performance, in particular that of relatively younger firms. Yet as prior research has documented, emerging economy firms might be constrained in knowledge assimilation by their resource and capabilities deficiencies (Zahra and George, 2002b; Zahra and Hayton, 2008). Our findings therefore suggest that the notion of absorptive capacity (Cohen and Levinthal, 1990) is central to the emerging economy firm's ability to draw accurate inferences from foreign markets.

Our results have important implications for managers in emerging economy firms relating to the conditions under which international expansion and knowledge acquisition from international markets can be used for innovation. One implication is that firms should be aware of the acquisition of foreign market knowledge in their internationalization process and view it as vital for improving their innovative capabilities. They should actively engage in internationalization to speed up knowledge acquisition and capability building. Also, firms in emerging economies should pay attention to location choices for their foreign expansion and establish subsidiaries in locations in which they can tap into the available pools of knowledge.

There are a number of limitations to the current study that can be addressed in future work. Firstly, the sample is modest and it is difficult to generalize from this sample size. While we are confident that the respondents had the ideal profile to complete our questionnaires, we admit that future research can continue this line of investigation by considering firms from other industries and locations in China. Secondly, we focused on

Chinese firms. It is possible that firm internationalization and innovative capability development in other emerging economies follow different development trajectories due to different institutional pressures (Lamin and Livanis, 2013). While China is a suitable setting to conduct this type of study, future work should compare the case of Chinese firms with that of firms in other emerging economies, such as ones that are still at an early or beginner stage of institutional transition (Li, 2013). Thirdly, we did not examine the structures and processes within the firm that enable it to access and integrate knowledge (Zander, 2002). While we show support for the argument that diversity through country sales breadth has a positive impact on the relationship between foreign market knowledge and innovative performance, we do not show specific management techniques the firms in our sample used to acquire and integrate this knowledge such that innovative capabilities in the home country could be bolstered. Future research using primary data collection and observation could investigate these internal mechanisms to ascertain whether Chinese firms tend to use specific integrative mechanisms that are idiosyncratic to Chinese management or to emerging economy firms. We hope that these steps will help build our understanding of how firms in emerging economies can leverage internationalization in order to become more innovative.

REFERENCES

- Ahuja, G and R Katila (2001). Technological acquisitions and the innovation performance of acquiring firms: a longitudinal study. *Strategic Management Journal*, 22(3), 197-220.
- Andersen, O (1993). On the internationalization process of firms - a critical analysis. *Journal*

- of International Business Studies*, 24(2), 209-231.
- Argyris, C (1977). Double loop learning in organizations. *Harvard Business Review*, 55(5), 115-125.
- Argyris, C and D Schön (1978). *Organizational Learning: A theory of action perspective*. Reading, MA: Addison-Wesley.
- Autio, E, HJ Sapienza and JG Almeida (2000). Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of Management Journal*, 43(5), 909-924.
- Awate, S, MM Larsen and R Mudambi (2012). EMNE catch-up strategies in the wind turbine industry: Is there a trade-off between output and innovation capabilities?. *Global Strategy Journal*, 2(3), 205-223.
- Barkema, HG, JH Bell and JM Pennings (1996). Foreign entry, cultural barriers, and learning. *Strategic Management Journal*, 17(2), 151-166.
- Barkema, HG and R Drogendijk (2007). Internationalising in small, incremental or larger steps? *Journal of International Business Studies*, 38(7), 1132-1148.
- Barkema, HG, O Shenkar, F Vermeulen and JHJ Bell (1997). Working abroad, working with others: How firms learn to operate international joint ventures. *Academy of Management Journal*, 40(2), 426-442.
- Barkema, HG and F Vermeulen (1998). International expansion through start-up or acquisition: A learning perspective. *Academy of Management Journal*, 41(1), 7-26.
- Bassett - Jones, N (2005). The paradox of diversity management, creativity and innovation. *Creativity and Innovation Management*, 14(2), 169-175.

- Brouthers, LE and KF Xu (2002). Product stereotypes, strategy and performance satisfaction: The case of Chinese exporters. *Journal of International Business Studies*, 33(4), 657-677.
- Buckley, PJ, LJ Clegg, AR Cross, X Liu, H Voss and P Zheng, P. (2007). The determinants of Chinese outward foreign direct investment. *Journal of International Business Studies*, 38(4), 499-518.
- Calori, R, G Johnson and P Sarnin (1994). CEOs cognitive maps and the scope of the organization. *Strategic Management Journal*, 15(6), 437-457.
- Cantwell, J and R Mudambi (2005). MNE competence-creating subsidiary mandates. *Strategic Management Journal*, 26(12), 1109-1128.
- Cantwell, J and L Piscitello (2000). Accumulating technological competence: its changing impact on corporate diversification and internationalization. *Industrial and Corporate Change*, 9(1), 21-51.
- Cardoza, G and G Fornes (2011). The internationalisation of SMEs from China: The case of Ningxia Hui Autonomous Region. *Asia Pacific Journal of Management*, 28(4), 737-759.
- Caridi-Zahavi, O, A Carmeli and O Arazy (2015). The influence of CEOs' visionary innovation leadership on the performance of high-technology ventures: The mediating roles of connectivity and knowledge integration. *Journal of Product Innovation Management*, published online, DOI: 10.1111/jpim.12275.
- Chetty, S and D Blankenburg Holm (2000). Internationalisation of small to medium-sized manufacturing firms: A network approach. *International Business Review*, 9(1), 77-93.
- Choi, SB and C Williams (2014). The impact of innovation intensity, scope, and spillovers on

- sales growth in Chinese firms. *Asia Pacific Journal of Management*, 31(1), 25-46.
- Christensen, J and I Drejer (2005). The strategic importance of location: Location decisions and the effects of firm location on innovation and knowledge acquisition. *European Planning Studies*, 13(6), 807-814.
- Cieslik, J and E Kaciak (2009). The speed of internationalization of entrepreneurial start-ups in a transition environment. *Journal of Developmental Entrepreneurship*, 14(4), 375-392.
- Cohen, WM and DA Levinthal (1989). Innovation and Learning - The 2 faces of R&D. *Economic Journal*, 99(397), 569-596.
- Cohen, WM and DA Levinthal (1990). Absorptive capacity - a new perspective on learning and Innovation. *Administrative Science Quarterly*, 35(1), 128-152.
- Collins, CJ and KG Smith (2006). Knowledge exchange and combination: The role of human resource practices in the performance of high-technology firms. *Academy of Management Journal*, 34(3), 544-560.
- Contractor, F (2013). "Punching above their weight". The sources of competitive advantage of emerging market multinationals. *International Journal of Emerging Markets*, 8(4), 304-328.
- Del'Era, C and R Verganti (2010). Collaborative strategies in design-intensive industries: knowledge diversity and innovation. *Long Range Planning*, 43(1), 123-141.
- Deng, P (2009). Why do Chinese firms tend to acquire strategic assets in international expansion? *Journal of World Business*, 44(1), 74-84.
- Dess, GG, RD Ireland, SA Zahra, SW Floyd, JJ Janney and PJ Lane (2003). Emerging issues

- in corporate entrepreneurship. *Journal of Management*, 29(3), 351-378.
- Dunning, JH (1998). Location and the multinational enterprise: A neglected factor? *Journal of International Business Studies*, 29(1), 45-66.
- Eriksson, K, J Johanson, A Majkgard and DD Sharma (1997). Experiential knowledge and cost in the internationalization process. *Journal of International Business Studies*, 28(2), 337-360.
- Fernhaber, SA, BA Gilbert and PP McDougall (2008). International entrepreneurship and geographic location: an empirical examination of new venture internationalization. *Journal of International Business Studies*, 39(2), 267-290.
- Fiol, CM (1994). Consensus, diversity, and learning in organizations. *Organization Science*, 5(3), 403-420.
- Fiol, CM and MA Lyles (1985). Organizational learning. *Academy of Management Review*, 10(4), 803-813.
- Fornell, C and DF Larcker (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Gao, GY, JY Murray, M Kotabe and J Lu (2010). A “strategy tripod” perspective on export behaviors: Evidence from domestic and foreign firms based in an emerging economy. *Journal of International Business Studies*, 41(3), 377-396.
- Gaur, AS, and JW Lu (2007). Ownership strategies and survival of foreign subsidiaries: Impacts of institutional distance and experience. *Journal of Management*, 33(1), 84-110.
- Grant, RM (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(S2), 109-122.

- Gu, M and E Tse (2010). Building innovative organizations in China: The “execution+” organization. *Asia Pacific Journal of Management*, 27(1), 25-53.
- Guan, JC, CK Mok, R Yam, K Chin and KF Pun (2006). Technology transfer and innovation performance: Evidence from Chinese firms. *Technological Forecasting and Social Change*, 73(6), 666-678.
- Gupta, AK and V Govindarajan (2000). Knowledge flows within multinational corporations. *Strategic Management Journal*, 21(4), 473-496.
- Hagedoorn, J and M Cloudt (2003). Measuring innovative performance: Is there an advantage in using multiple indicators? *Research Policy*, 32(8), 1365-1379.
- Hashai, N (2011). Sequencing the expansion of geographic scope and foreign operations by "born global" firms. *Journal of International Business Studies*, 42(8), 995-1015.
- Hitt, MA, RE Hoskisson and RD Ireland (1994). A mid-range theory of the interactive effects of international and product diversification on innovation and performance. *Journal of Management*, 20(2), 297-326.
- Horng, C and W Chen (2008). From contract manufacturing to own brand management: The role of learning and cultural heritage identity. *Management and Organization Review*, 4(1), 109-133.
- Hu, AG and GH Jefferson (2004). Returns to research and development in Chinese industry: Evidence from state-owned enterprises in Beijing. *China Economic Review*, 15(1), 86-107.
- Huber, GP (1991). Organizational learning: The contributing processes and the literatures. *Organization Science*, 2(1), 88-115.

- Jefferson, GH, B Huamao, G Xiaojing, and Y Xiaoyun (2006). R&D performance in Chinese industry. *Economics of Innovation and New Technology*, 15(4-5), 345-366.
- Jiang, RJ, PW Beamish and S Makino (2014). Time compression diseconomies in foreign expansion. *Journal of World Business*, 49(1), 114-121.
- Johanson, J and J-E Vahlne (1977). Internationalization process of firm - model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies*, 8(1), 23-32.
- Johanson, J and J-E Vahlne (2009). The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of International Business Studies*, 40(9), 1411-1431.
- Jones, GR and CW Hill (1988). Transaction cost analysis of strategy - structure choice. *Strategic Management Journal*, 9(2), 159-172.
- Kiss, AN, WM Danis and ST Cavusgil (2012). International entrepreneurship research in emerging economies: A critical review and research agenda. *Journal of Business Venturing*, 27(2), 266-190.
- Knight, GA and ST Cavusgil (2004). Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies*, 35(2), 124-141.
- Kogut, B and U Zander (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science*, 3(3), 383-397.
- Kogut, B and U Zander (1993). Knowledge of the firm and the evolutionary-theory of the multinational corporation. *Journal of International Business Studies*, 24(4), 625-645.
- Kuemmerle, W (1999). The drivers of foreign direct investment into research and

- development: An empirical investigation. *Journal of International Business Studies*, 30(1), 1-24.
- Kuemmerle, W (2002). Home base and knowledge management in international ventures. *Journal of Business Venturing*, 17(2), 99-122.
- Kumaraswamy, A, R Mudambi, H Saranga and A Tripathy (2012). Catch-up strategies in the Indian auto components industry: Domestic firms' responses to market liberalization. *Journal of International Business Studies*, 43(4), 368-395.
- Lamin, A and G Livanis (2013). Agglomeration, catch-up and the liability of foreignness in emerging economies. *Journal of International Business Studies*, 44(6), 579-606.
- Lamotte, O and A Colovic (2015). Early internationalization of new ventures from emerging countries: The case of transition economies. *Management*, 18(1), 18-30.
- Lane, PJ and M Lubatkin (1998). Relative absorptive capacity and interorganizational learning. *Strategic Management Journal*, 19(5), 461-477.
- Lecraw, DJ (1983). Performance of transnational corporations in less developed countries. *Journal of International Business Studies*, 14(1), 15-33.
- Levinthal, DA and JG March (1993). The myopia of learning. *Strategic Management Journal*, 14(S2), 95-112.
- Levitt, B and JG March (1988). Organizational learning. *Annual Review of Sociology*, 14, 319-340.
- Li, HY and K Atuahene-Gima (2001). Product innovation strategy and the performance of new technology ventures in China. *Academy of Management Journal*, 44(6), 1123-1134.
- Li, J, D Chen and DM Shapiro (2010). Product innovations in emerging economies: the role

- of foreign knowledge access channels and internal efforts in Chinese firms. *Management and Organization Review*, 6(2), 243-266.
- Li, J (2013). The internationalization of entrepreneurial firms from emerging economies: The roles of institutional transitions and market opportunities. *Journal of International Entrepreneurship*, 11(2), 158-171
- Lu, JW and PW Beamish (2001). The internationalization and performance of SMEs. *Strategic Management Journal*, 22(6-7), 565-586.
- Lu, JW and PW Beamish (2004). International diversification and firm performance: The S-curve hypothesis. *Academy of Management Journal*, 47(4), 598-609.
- Luo, YD and RL Tung (2007). International expansion of emerging market enterprises: A springboard perspective. *Journal of International Business Studies*, 38(4), 481-498.
- Lyles, MA and JE Salk (1996). Knowledge acquisition from foreign parents in international joint ventures: An empirical examination in the Hungarian context. *Journal of International Business Studies*, 27(5), 877-903.
- Makino, S and A Delios (1996). Local knowledge transfer and performance: Implications for alliance formation in Asia. *Journal of International Business Studies*, 27(5), 905-927.
- March, JG (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71-87.
- Mathews, JA and DS Cho (1999). Combinative capabilities and organizational learning in latecomer firms: The case of the Korean semiconductor industry. *Journal of World Business*, 34(2), 139-156.
- Meyer, K and O Thaijongrak (2013). The dynamics of emerging economy MNEs: How the

- internationalization process model can guide future research. *Asia Pacific Journal of Management*, 30(4), 1125-1153.
- Nunnally, JC (1978). *Psychometric theory*. New York: McGraw-Hill.
- Oviatt, BM and PP McDougall (1994). Toward a theory of international new ventures. *Journal of International Business Studies*, 25(1), 45-64.
- Oviatt, BM and PP McDougall (2005). Defining international entrepreneurship and modeling the speed of internationalization. *Entrepreneurship Theory and Practice*, 29(5), 537-553.
- Peng, MW (2003). Institutional transitions and strategic choices. *Academy of Management Review*, 28(2), 275-296.
- Peng, MW and YD Luo (2000). Managerial ties and firm performance in a transition economy: The nature of a micro-macro link. *Academy of Management Journal*, 43(3), 486-501.
- Peng, MW, DYL Wang and Y Jiang (2008). An institution-based view of international business strategy: A focus on emerging economies. *Journal of International Business Studies*, 39(5), 920-936.
- Penrose, ET (1995). *The theory of grow of the firm*. New York: Oxford University Press.
- Perks, H, KB Kahn and C Zhang (2010). The nature of R&D-marketing integration in Chinese high-tech companies. *International Journal of Innovation Management*, 14(01), 19-40.
- Petersen, B, T Pedersen and MA Lyles (2008). Closing knowledge gaps in foreign markets. *Journal of International Business Studies*, 39(7), 1097-1113.
- Presutti, M, C Boari and L Fratocchi (2007). Knowledge acquisition and the foreign

- development of high-tech start-ups: A social capital approach. *International Business Review*, 16(1), 23-46.
- Ricart, JE, MJ Enrights, P Ghemawat, SL Hart and T Khanna (2004). New frontiers in international strategy. *Journal of International Business Studies*, 35(3), 175-200.
- Schumpeter, JA and R Opie (1955). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. [Theorie der wirtschaftlichen Entwicklung (1934)]. Cambridge, MA: Harvard University Press.
- Sim, A and JR Pandian (2003). Emerging Asian MNEs and their internationalization strategies - Case study evidence on Taiwanese and Singaporean firms. *Asia Pacific Journal of Management*, 20(1), 27-50.
- Smith, KG, CJ Collins and KD Clark (2005). Existing knowledge, knowledge creation capability, and the rate of new product introduction in high technology firms. *Academy of Management Journal*, 48(2), 346-357.
- Tsao, SM and GZ Chen (2012). The impact of internationalization on performance and innovation: The moderating effects of ownership concentration. *Asia Pacific Journal of Management*, 29(3), 617-642.
- Vermeulen, F and H Barkem (2002). Pace, rhythm, and scope: process dependence in building a profitable multinational corporation. *Strategic Management Journal*, 23(7), 637-653.
- von Zedtwitz, M (2004). Managing foreign R&D laboratories in China. *R&D Management*, 34(4), 439-452.
- Wales, WJ, V Parida and PC Patel (2013). Too much of a good thing? Absorptive capacity,

- firm performance, and the moderating role of entrepreneurial orientation. *Strategic Management Journal*, 34(5), 622-633.
- Walsh, JP (1995). Managerial and organizational cognition: Notes from a trip down memory lane. *Organization Science*, 6(3), 280-321.
- Wang, Q, S Collinson and X Wu (2010). Editorial. The rise of Chinese technology-based firms: New institutional and market contexts for innovation. *International Journal of Innovation Management*, 14(1), v-x.
- Wanous, JP and MA Youtz (1986). Solution diversity and the quality of groups decisions. *Academy of Management Journal*, 29(1), 149-159.
- Williams, C. and SH Lee (2009). Resource allocations, knowledge network characteristics and entrepreneurial orientation of multinational corporations. *Research Policy*, 38(8), 1376-1387.
- Wu, X and W Zhang (2010). Seizing the opportunity of paradigm shifts: catch-up of Chinese ICT firms. *International Journal of Innovation Management*, 14(1), 57-91.
- Xie, W and M von Zedtwitz (2010). Main characteristics of world-first innovation in catching-up countries. *Journal of Technology Management in China*, 5(2), 108-121.
- Yip, G and B McKern (2014). Innovation in emerging markets - the case of China. *International Journal of Emerging Markets*, 9(1), 2-10.
- Yli-Renko, H, E Autio and HJ Sapienza (2001). Social capital, knowledge acquisition, and knowledge exploitation in young technology-based firms. *Strategic Management Journal*, 22(6-7), 587-613.
- Yli-Renko, H, E Autio and V Tontti (2002). Social capital, knowledge, and the international

- growth of technology-based new firms. *International Business Review*, 11(3), 279-304.
- Zahra, SA and DM Garvis (2000). International corporate entrepreneurship and firm performance: The moderating effect of international environmental hostility. *Journal of Business Venturing*, 15(5-6), 469-492.
- Zahra, SA and G George (2002a). International entrepreneurship: The current status of the field and future research agenda. In MA Hitt, RD Ireland, SM Camp and DL Sexton (Eds.), *Strategic entrepreneurship: Creating a new mindset*. Oxford, UK: Blackwell Publishers, 255-288.
- Zahra, SA and G George (2002b). Absorptive capacity. A review, recontextualization and extension. *Academy of Management Review*, 27(2), 185-203.
- Zahra, SA and JC Hayton (2008). The effect of international venturing on firm performance: The moderating influence of absorptive capacity. *Journal of Business Venturing*, 23(2), 195-220.
- Zahra, SA, RD Ireland and MA Hitt (2000). International expansion by new venture firms: International diversity, mode of market entry, technological learning, and performance. *Academy of Management Journal*, 43(5), 925-950.
- Zander, U (2002). The formation of international innovation networks in the multinational corporation: an evolutionary perspective. *Industrial and Corporate Change*, 11(2), 327-353.
- Zanfei, A (2000). Transnational firms and the changing organisation of innovative activities. *Cambridge Journal of Economics*, 24(5), 515-542.
- Zeng, YP, O Shenkar, SH Lee and S Song (2013). Cultural differences, MNE learning

- abilities, and the effect of experience on subsidiary mortality in a dissimilar culture: Evidence from Korean MNEs. *Journal of International Business Studies*, 44(1), 42-65.
- Zhang, Y and H Li (2010). Innovation search of new ventures in a technology cluster: the role of ties with service intermediaries. *Strategic Management Journal*, 31(1), 88-109.
- Zhang, Y, HY Li and CB Schoonhoven (2009). Intercommunity relationships and community growth in China's high technology industries 1988-2000. *Strategic Management Journal*, 30(2), 163-183.
- Zhou, L (2007). The effects of entrepreneurial proclivity and foreign market knowledge on early internationalization. *Journal of World Business*, 42(3), 281-293.
- Zhou, L, BR Bames and Y Lu (2010). Entrepreneurial proclivity, capability upgrading and performance advantage of new ventures. *Journal of International Business Studies*, 41(5), 882-905.
- Zhou, L and A Wu (2014). Earliness of internationalization and performance outcomes: Exploring the moderating effects of venture age and international commitment. *Journal of World Business*, 49(1), 132-142.

TABLES

Table 1. Profile of firms in the sample

Variable	Distribution (%)
Industry	
- Traditional manufacturing	21.7
- Information Technology	59.8
- Service	9.8
- Medical	1.1
- Intermediary	1.1
- Other	6.5
Internationalization	
- within 2 years after start-up	46.7
- within 2-3 years after start-up	23.9
- within 4-5 years after start-up	12.0
- within 5-6years after start-up	8.7
- more than 6 years after start-up	8.7
Number of countries where firm has sales	
- 1-3 countries	51.1
- 4-6 countries	17.4
- 7-9 countries	8.7
- 9-11 countries	8.7
- More than 11 countries	14.1
Internationalization stage	
- Domestic marketing	7.6
- Pre-export stage	2.2
- Experimental involvement	32.6
- Active involvement	26.1
- Committed involvement	31.5

Table 2. Measurement items and validity assessment

Variables and Questionnaire Item (5 point scales)	Loadings
<i>Innovative performance</i> (Cronbach's α =0.88, CR= 0.88, AVE= 0.60, MSV = 0.17)	
Speed of new product development	0.85
Number of annual new products	0.84
Success rate of product innovation	0.76
Sales of new products to total sales	0.78
Number of annual patents	0.74
<i>Country sales breadth</i>	
Number of overseas markets in which firm has sales	
<i>Foreign market knowledge</i> (Cronbach's α =0.86, CR= 0.86, AVE= 0.60, MSV = 0.29)	
Top managers' knowledge about...	
...foreign competitors	0.74
...the needs of foreign clients / customers	0.83
...foreign distribution channels	0.79
...effective marketing in foreign markets	0.75

Table 3. Means, standard deviations, and correlations

Variables	Mean	S.D.	1	2	3	4	5	6	7	8
1. Innovative performance ^a	3.44	0.79								
2. Annual patents ^b	3.10	1.01	0.64***							
3. Size (ln)	5.20	1.60	0.05	0.16						
4. Age	8.54	5.11	0.04	0.17	0.59***					
5. Industry	3.72	1.16	-0.12	-0.10	-0.15	-0.09				
6. Intern. speed	2.74	1.47	0.07	0.34***	0.13	0.19+	-0.11			
7. Location	2.18	1.96	0.25*	0.14	0.28**	0.20+	-0.15	0.00		
8. Foreign market knowledge	3.37	0.78	0.46**	0.37**	0.16	0.21*	-0.04	0.06	0.14	
9. Country sales breadth	2.17	1.49	0.18+	0.36***	0.44***	0.28**	-0.10	0.19+	0.12	0.41***

N=92 *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

^a Based on four item scale for new product development and launch success

^b Single item

Table 4. Regression results (1)

	Innovative Performance (5 item scale)				
	1	2	3	4	5
<i>Controls</i>					
Size	-0.01 (0.06)	-0.01 (0.06)	-0.05 (0.07)	-0.02 (0.06)	-0.02 (0.06)
Age	-0.00 (0.02)	-0.01 (0.02)	-0.00 (0.02)	-0.01 (0.02)	-0.01 (0.02)
Industry	-0.03 (0.05)	-0.03 (0.04)	-0.03 (0.05)	-0.03 (0.04)	-0.02 (0.04)
Location	0.09* (0.04)	0.08+ (0.04)	0.09* (0.04)	0.08+ (0.04)	0.08* (0.04)
Intern. Speed	0.08 (0.06)	0.08 (0.06)	0.06 (0.06)	0.07 (0.06)	0.10+ (0.06)
<i>Independent variables</i>					
FMK		0.35*** (0.07)		0.34*** (0.08)	0.37*** (0.08)
CSB			0.18* (0.09)	0.04 (0.09)	-0.04 (0.10)
FMK x CSB					0.16* (0.09)
Max. VIF	1.61	1.61	1.82	1.84	1.85
F	1.60	5.54***	2.08+	4.73***	4.66***
Adj. R2	0.03	0.23	0.07	0.22	0.24

FMK = Foreign market knowledge; CSB = Country sales breadth

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1 Standard errors in parentheses.

Table 5. Regression results (2)

	Innovative Performance (4 item scale)				
	1	2	3	4	5
<i>Controls</i>					
Size	-0.01 (0.07)	-0.02 (0.06)	-0.05 (0.07)	-0.02 (0.06)	-0.02 (0.06)
Age	-0.002 (0.02)	-0.02 (0.02)	-0.00 (0.02)	-0.02 (0.02)	-0.01 (0.02)
Industry	-0.04 (0.05)	-0.04 (0.04)	-0.03 (0.05)	-0.04 (0.04)	-0.03 (0.04)
Location	0.10** (0.04)	0.08* (0.04)	0.10* (0.04)	0.08** (0.04)	0.09** (0.04)
Intern. Speed	0.04 (0.06)	0.04 (0.06)	0.03 (0.06)	0.04 (0.06)	0.06 (0.06)
<i>Independent variables</i>					
FMK		0.36*** (0.08)		0.36*** (0.08)	0.39*** (0.08)
CSB			0.15 (0.09)	-0.003 (0.09)	-0.07 (0.10)
FMK x CSB					0.15+ (0.09)
Max. VIF	1.61	1.61	1.82	1.84	1.85
F	1.40	5.22***	1.63	4.42***	4.30***
Adj. R2	0.02	0.23	0.03	0.21	0.23

FMK = Foreign market knowledge; CSB = Country sales breadth

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1 Standard errors in parentheses.

FIGURES

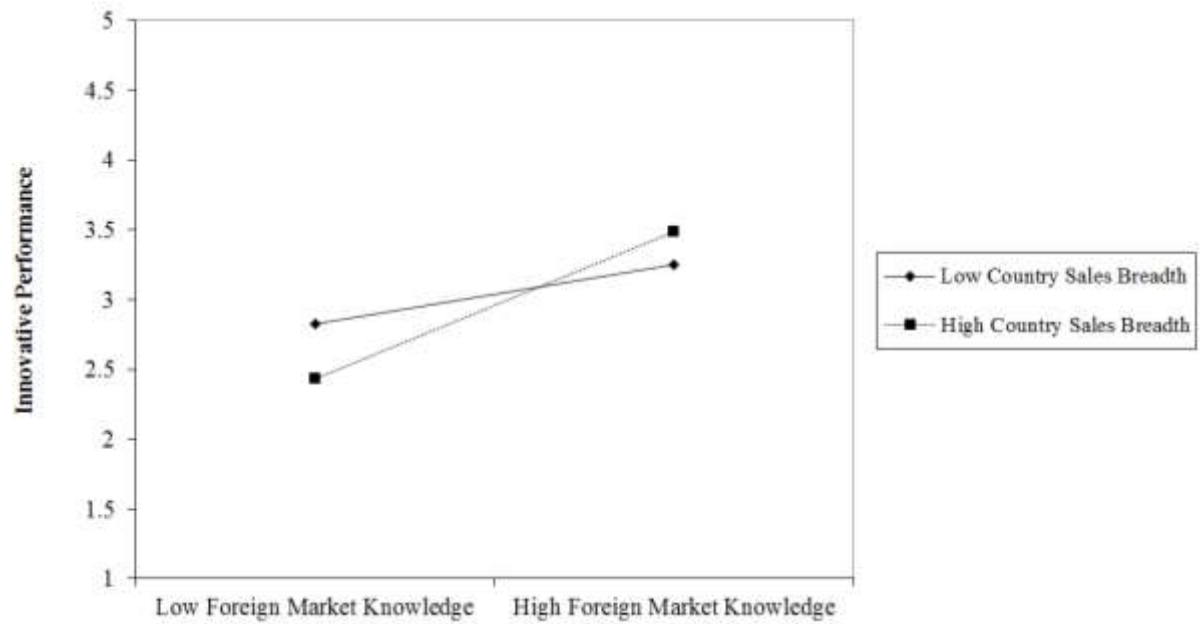


Figure 1. Moderating effect of country sales breadth on the relationship between foreign market knowledge and innovative performance